PROBLEMS ENCOUNTERED BY FARMERS IN APPLYING SOIL CONSERVATION PRACTICES IN OHIO

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PROBLEMS ENCOUNTERED BY FARMERS IN APPLYING SOIL CONSERVATION PRACTICES IN OHIO[1]/

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Introduction

During the past ten years much progress has been made by Ohio farmers in applying needed soil and water conservation practices. The purpose of this report is to discuss some of the problems encountered by farmers in applying complete soil conservation programs on their farms. The material presented should not be interpreted to mean that progress is not being made in applying some conservation practices on almost every farm. Conservation farming is a matter of degree. Whenever a farmer applies some lime or fertilizer or raises a meadow crop, he is following some conservation measures. However, he may not apply enough lime or fertilizer or raise enough legume crops to meet the recommendations for an ideal conservation program. Some farmers may be doing a good job of conservation farming from the standpoint of agronomic practices, but they may be doing a poor job of erosion control. Other farmers may apply the needed erosion control practices, but fail to adopt the recommended conservation rotations.

This material is based on personal interviews with over 400 farmers in Coshocton, Morrow, Fayette and Champaign Counties in Ohio. The main objective of some of these interviews was to find out why farmers had delayed adopting good conservation practices. In other interviews this phase was incidental

1/ Contribution from the Ohio Agricultural Experiment Station as a collaborator under North Central Region Cooperative Research Project entitled Economic Aspects of Soil Conservation in the Midwest.

to other major objectives. Contacts were made from 1937 through 1950 and in some cases the same farmer was visited several times.

Approximately 350 of the farmers contacted had complete conservation plans developed with assistance of the local soil conservation district. A large number of these farmers followed practically all of the conservation recommendations made for their farms. However, there were some farmers in this group who have made only a few of the recommended changes, and in general have continued to follow their usual methods of farming.

Approximately 50 farmers who did not have conservation plans developed for their farms are included in this study. They were interested in a few phases of conservation farming, but had not reached the stage where they were willing to adopt all of the plans recommended for their farms. On most of these farms, at least several conservation measures were needed to control erosion and maintain soil productivity.

Compliance with soil conservation recommendations is more difficult to accomplish in some areas than others. For example, it is much easier to apply a complete conservation program to farms where only good agronomic practices are needed than on farms where both agronomic and erosion control measures are recommended. Some plans are easier for the farmer to adopt than others.

No attempt will be made in this report to evaluate the relative importance of reasons given by the farmers interviewed because of the wide variation in farming conditions in Ohio. In some areas the major difficulties in applying conservation farming are associated with application of such erosion control practices as contouring, terracing and strip cropping. In the more level areas where few erosion control practices are needed, the problem centers principally around drainage and good agronomic practices. Farmers in areas with a high degree of tenancy have problems in adopting certain conservation practices that

do not apply to owner-operated farms. Also, the young farmer often evaluates conservation problems in a different way than the older farmer who plans to retire soon.

To classify difficulties on the basis of magnitude would involve studying small areas where the problems of application were approximately the same on each farm. Studies of this type would be more specific for local areas only, and no single one would include all of the difficulties enumerated by the farmers in this report.

Some of the reasons given by the farmers for not adopting all of the conservation recommendations are real while others may be imaginary. In either case the farmer will hesitate to adopt the new conservation practice until he believes it is practical for him to do so. Many obstacles to the adoption of soil conservation measures apply also to the acceptance of any new farm practice.

Recommended Conservation Program

To understand some of the difficulties involved in reorganizing farms for soil and water conservation, a brief discussion will be given of the recommendations usually made for farms in Ohio.

The ideal soil conservation recommendations are based upon available land resources which include soil type, topography and degree of erosion. The usual procedure in developing a conservation farm plan is to determine the amount of land suited for crops, permanent pasture and woods. On most farms, cropland will be limited to areas where erosion can be controlled by agronomic and mechanical practices. Land too steep for crops may be used for permanent pasture, provided it is not too steep to be improved by using modern farm machinery. Areas too steep for permanent pasture should be used for woods.

For the cropland, a rotation is recommended that will maintain or increase the productive capacity of the soil. In many cases this involves raising more hay and less grain to control erosion and provide the required amount of

organic matter.

Liberal applications of fertilizer are recommended for the cropland to provide maximum growth of meadow crops for soil improvement purposes. Liming cropland is also recommended when insufficient lime is available to grow an alfalfa-clover-grass meadow.

Contour cultivation, terracing and contour strip cropping are recommended for controlling erosion on the sloping cropland. Drainage is advisable to rid soil of sluggish internal movement of excess standing water.

A permanent pasture improvement program includes liming, fertilizing and clipping to improve the sod on steep slopes subject to erosion.

Woodland management recommendations include fencing against livestock and protection from fire. Undesirable trees and grapevines should be cut and the desirable trees marketed as they mature. New plantings are recommended for areas not suited to crops or permanent pasture.

The wildlife management program includes planting odd areas to trees and shrubs to provide adequate cover for birds and beneficial insects. Fence rows should not be mowed until after small grain harvest to give the birds sufficient time to complete their nesting period.

Farm ponds are recommended for watering livestock, controlling erosion, fishing purposes and protecting buildings against loss from fire. Masonry structures are recommended to control erosion when vegetative cover is inadequate.

The preceding recommendations illustrate how complex a conservation program might be in a few cases. However, on most farms only a part of these recommendations will be necessary. For many farmers, the rate of adopting a complete conservation program will depend upon the number of practices needed. The fewer the practices recommended, the easier it will be to make the needed changes.

Problems Encountered by Farmers

Lack of Information. It can be assumed that practically all of the farmers interviewed in this report recognized that a problem of soil conservation existed on their farms; otherwise they would not have asked the local soil conservation district for assistance. There are many farmers not included in this study who do not realize that additional measures are needed on their farms. There are even more farmers who recognize the need for conservation farming, but they are not familiar with conservation recommendations. In many cases this situation may be due to the comparatively recent emphasis placed on saving soil resources.

Some of the farmers who did not have conservation plans insisted that soil productivity was being maintained because their crop yields had not declined during the last 15 years. These farmers did not think they needed to adopt erosion control practices or rotations containing more meadow crops. Therefore, they were not interested in changing their present methods of land management. On these farms, the operator did not realize that crop yields are not always a true indicator of soil maintenance.

During certain periods of time soil productivity may decline on some farms, yet crop yields will remain the same or increase slightly. For example, hybrid corn might offset a decline in yield which would have occurred if the open-pollenated varieties had been raised. On some farms modern farm machinery has increased corn yields by enabling the farmer to plant the crop more nearly on time. Heavier applications of lime and fertilizer have helped to offset declines in yields on other farms where depleting rotations have been followed. Over short periods of time yields have increased on some farms because of more favorable growing weather.

Some of the farmers interviewed did not think their farm needed erosion

control because there were no gullies on the cropland. However, soils maps of these farms often showed that as much as one-half of the original topsoil had been lost by erosion. These farmers did not realize that severe sheet erosion often occurs before gullies begin to develop.

Understanding soil conservation principles will require a broad educational program in many areas. Before a farmer can be expected to apply conservation practices, he must first recognize that a problem of soil maintenance exists. He also must have a desire to correct the situation. Then, he must understand what is needed to accomplish conservation farming, and how he can apply the recommended practices. Before a farmer can evaluate properly the benefits of a conservation program, he must know what will happen to yields on his farm if he continues to follow soil depleting methods. Likewise, he should know what to expect in production if he adopts recommended practices. Information of this type should assist materially in acquainting farmers with the need for these practices.

More farmers should be informed that soil conservation districts have been organized in most counties to aid them in solving their conservation problems. Also, trained technicians are available to render assistance in establishing the necessary mechanical practices. Although this assistance is available in most counties, farmers should realize that they must learn to apply conservation practices with a minimum amount of detailed guidance. Otherwise, there will be a large number who will not receive immediate assistance because of the limited amount of trained personnel. Education in the field of soil conservation is just as essential as education in any new phase of farming. A good educational program should reduce somewhat the imagined obstacles to conservation farming.

Rearrangement of Fields. A few farmers in this study objected to the immediate adoption of recommended rotations and erosion control practices

because they did not want to change their present field arrangement. Several of these farmers were following a three year rotation of corn, small grain and one year of meadow. This made three fields or units enabling them to have approximately the same acreage in grain and hay each year. For conservation purposes, a four-year rotation of corn, small grain and two years of meadow was recommended for their farms. These farmers objected to applying the four year rotation to the three field system because once every four years they would not have any corn on their farms. These same farmers did not want to refence their farms into four fields because present fences were new, and changes at this time would involve additional expenses. They planned to adopt the recommended rotation when the fences needed replacing. The same situation prevented several farmers on sloping land from adopting contour strip cropping.

Several farmers on sloping land objected to the adoption of contour cultivation and contour strip cropping because they would then have to fence their fields on the contour. This change in fencing was necessary to keep point rows to the minimum and make the rows as long as possible in each field. On these particular farms, fencing on the contour would create some pasturing problems that did not exist previously. For example, some of the proposed fields would not connect with the barnlot as they did under the present field arrangement. On some farms fencing on the contour would require additional watering facilities if livestock were to be pastured in the new fields. Since these farmers did not think erosion was a serious problem on their farms, they preferred to keep the present field arrangement rather than apply the recommended erosion control practices.

On many farms, rearrangement of fields may be only a temporary obstacle to adopting conservation practices. When new fences are needed they may be located in the proper place at no additional cost to the farmer. As more

emphasis is placed on the benefits of conservation farming, more farmers may be expected to provide additional watering facilities and lanes when they are needed to apply a conservation program.

Reorganization of Livestock Enterprises. Many hog farmers stated they could not maintain farm income if they adopted the recommended conservation rotation of corn, small grain and two years of meadow. In most cases, these farmers were following a three year rotation of corn, small grain and one year of pasture. According to these farmers, the three year rotation produced the maximum amount of corn and supplied an abundance of pasture for the hogs. These farmers were located on land where the problem of conservation farming was not as great as it was on some of the other farms in this study.

On most of these hog farms, the operator did not think he could maintain farm income with a smaller acreage of grain unless he could profitably feed or sell the additional hay. Some of the hog farmers objected to raising dairy cows, beef cattle or sheep because of their limited experience and lack of interest in these classes of livestock. Several of these farmers stated they would not milk cows, even though dairying was a profitable enterprise, because they did not want to work seven days a week. Several younger farmers stressed advantages of the more rapid capital turnover in the hog enterprise compared with dairy or beef cows.

Many hog farmers on sloping land may find that they must reorganize their livestock program along with the adoption of conservation rotations. Otherwise, they may not be able to maintain their farm income. In many cases it may be necessary to feed or sell the additional meadow crops to offset the immediate loss in income from less grain produced by the recommended conservation rotations. A sound soil conservation program cannot be built around feed requirements for the present type of livestock on many farms. Instead, it must

be built around the needs of the land from the standpoint of controlling erosion and maintaining the productive capacity of the soil. Only within these limits of good land management can the livestock program be varied to meet the desires of individual farmers.

Risk and Uncertainty. Some of the farmers in this study pointed out how risk and uncertainty had been increased on their farms when they adopted certain conservation recommendations. Other farmers who did not adopt these practices anticipated similar difficulties. Most of these problems centered around the production and utilization of more hay and pasture.

For soil conservation purposes, a rotation of corn, small grain and two years of meadow was recommended for many farms in this study. Often, this rotation was intended to replace the prevailing one of corn, small grain and one year of meadow. Some farmers objected to the second year meadow in the rotation because they were unable to produce a good stand of alfalfa, and as a result the second year meadow consisted principally of timothy. These farmers were often located on heavy soils where alfalfa winterkilled easily. As long as only one year of hay was included in the rotation, red clover could be depended upon to produce a good type of legume hay. A few of the farmers thought a grass seeding failure was more serious when two years of hay were included in the rotation instead of one.

Some farmers are able to raise the desirable type of meadows, but they still harvest a poor quality hay because of unfavorable weather conditions. Many pointed out that it was easier for them to produce good quality grain than good hay. These farmers stated that in wet seasons their hay had a low feeding value and was difficult to sell. Occasionally, they would lose the entire first cutting of alfalfa, but seldom lost a crop of corn.

Utilization of meadow crops seemed to be more of a problem than the dis-

position of grain on many farms observed in this study. Some of the farmers said they often had difficulty in selling hay, but they were always able to sell grain at the prevailing market price. In some cases the only outlet for utilizing the meadow crops was to feed them to livestock. A few pointed out the risks involved in buying feeder cattle to consume additional hay and pasture. They maintained that profits in this enterprise often depended upon buying and selling at the right time, and the risks were much greater than in any other livestock or crop enterprise. In general, the farmers who were concerned about the problems of making more hay thought income would be reduced if they plowed the additional hay under.

There were a few of the older farmers who stated they could produce grain much easier than hay. These farmers were not physically able to make hay because of the heavier labor requirements compared with the production of grain. Several pointed out that it was much easier to feed grain than hay, especially when hay was stored in high mows.

The practice of seeding a cover crop in the corn at the last cultivation was unsatisfactory in about one-half of the cases where it was tried. Two risks were involved. If the season was dry the sweet clover usually failed to grow. In many cases, the farmer failed to make the seeding because he did not make the additional cultivation planned earlier in the season.

To reduce some of the risks involved in producing second-year alfalfa-grass-meadows, the farmer should apply the needed amount of lime and fertilizer. On many farms, this will require heavier applications than made in the past. The use of ladino clover in the meadow mixtures should provide better pastures where alfalfa makes a poor growth the second year. Barn dryers might be used on more farms to produce a higher quality hay. Also, grass silage might be used by more farmers to prevent losses in the first cutting of alfalfa.

More research is needed to determine the maximum amount of forage substituted for grain in the livestock rations. The more forage a farmer can feed profitably, the easier it will be for him to shift to less grain and more hay for soil conservation purposes. More information is needed in selecting animals that will consume the maximum amount of forage profitably.

Present vs. Future Income. Some of the farmers in this study delayed the adoption of a complete conservation program because they thought net income would decline during the period additional expenditures were being made for conservation purposes. This reduction in net income was anticipated because of the time required to recover some of the costs of establishing certain conservation practices. For example, the costs of liming cropland are not recovered on many farms until a meadow crop can be produced and marketed through livestock. A similar situation exists when expenditures are made for liming and fertilizing permanent pastures. Higher crop yields from conservation rotations cannot be expected until better meadow crops are raised and larger residues plowed under. In the meantime, total grain production may decline noticeably on these farms during the transition period because of the reduction in grain acreage. Several years may be required before the economic gains from terracing equal the cost of construction. Fencing the woods against livestock will have little effect upon increasing immediate farm income. Concrete structures may greatly increase cash outlays the year they are made.

A few of the farmers mentioned the additional costs raising more hay would incur. Among them was included the purchase of a hay baler or field chopper because custom work was unsatisfactory. Other costs included the provision of space for storing more hay and housing additional livestock. Installation of barn dryers for hay, and purchase of more livestock were also mentioned as additional costs by a few farmers.

A small group of farmers admitted that conservation farming would be profitable over a period of time, but they were not financially able to make the necessary expenditures. Included in this group were several widows and retired farmers who wanted to maximize present income because they had no savings. To other families in this group, soil conservation could be deferred longer than educating the children or modernizing the home. Several farmers were depleting soil resources because they wanted to pay off mortgages on the farm as rapidly as possible. To these farmers, losses in soil productivity were not as important as the risk of losing the whole farm by foreclosure in the near future.

A few farm owners stated they were not interested in soil conservation because they had inherited their farms only for their lifetime, and at their death the ownership would be transferred to unrelated heirs. These landowners saw few benefits in saving soil resources for some unrelated individual who would soon gain possession of the farm. Saving soil for future generations does not appeal to every farmer or landowner. A small number interviewed said they were not interested in saving soil for future generations because they had no children who would operate the farm after they quit. It is difficult to sell some of the long-time benefits of soil conservation to farmers who are interested in farming for only a few years. The tendency seemed to be for most farmers to adopt first those conservation practices that paid off in a short period of time.

More research is needed in the economics of soil conservation to determine how farmers can adopt soil conservation practices and at the same time maintain or increase farm income. Additional information is needed on the changes in farm organization that will be needed to apply conservation practices to areas where grain and hogs constitute the principal sources of income. Observations

indicate that the present recommended conservation rotations are much easier to adopt on dairy farms than on farms where most of the income is obtained directly or indirectly from grain.

This study indicates that special assistance may be needed by some farmers in making the necessary adjustments for conservation farming. Changes will be slow and difficult to make on some farms where the operator must maintain income during the transition period. In this case, additional expenses must be kept to the minimum unless gross receipts are increased. Unless the farmer is able to make the necessary changes during the transition period, he will not be successful in applying the needed conservation practices.

The farmer with a limited amount of capital may not be able to reduce the acreage in grain crops and increase the acreage in forage crops during the same year. However, he might begin to adopt the recommended rotation by liming and fertilizing the cropland to produce better quality hay. At the same time, he might raise more young stock to consume the additional hay and pasture that will be available when the acreage of grain is reduced. This method should enable many farmers to eventually adopt recommended agronomic practices with a minimum amount of additional expenditures.

More stress should be placed on considering conservation farming expenditures as production costs necessary to maintain the farm as a producing unit. Considerations of this type might prevent some farmers from over-capitalizing the land by assuming that soil depleting practices will not reduce future profits.

Additional financial assistance may be needed by some farmers if they are expected to adopt recommended conservation practices as rapidly as possible from the physical standpoint. In this case, the farmer may need better credit facilities, or even payments by the government to finance the program through

the transition period. Credit agencies should be better informed as to the returns that may be realized from conservation farming.

Landlord-Tenant Relationships. In applying recommended conservation practices, landlords and tenants often have specific problems that are not found on owner-operated farms. On the landlord-tenant farms two men instead of one must be willing to accept the suggested conservation measures.

On some of the landlord-tenant farms the main obstacle to conservation farming was financing the additional expenses. On these farms, the landlord thought tenants should pay a considerable amount of such costs as terracing and improving permanent pastures. Although tenants admitted they would receive benefits from these practices, they still objected to sharing the costs because they did not know how long they would operate these farms.

Several landlords said they wanted to adopt conservation practices, but their tenants were not interested in the program. These landlords pointed out the difficulties of getting satisfactory tenants. For example, a new tenant might apply conservation practices, but he might be less efficient than the former tenant in applying other agricultural practices. A few of the tenants said they could not adopt the recommended conservation rotations because the landlord insisted on raising the maximum amount of cash crops. On these farms the landlord had no interest in the livestock.

On many farms, new provisions in the lease may be needed to provide a more satisfactory arrangement for meeting expenses of conservation farming. One alternative would be for the landlord to pay all of the long-time conservation costs as he now does for buildings and fences. If this were done, the tenant would lose nothing if he left the farm before sufficient time had elapsed to recover the expenditures made for conservation purposes. Under this arrangement, some landlords might be reimbursed by being able to select a better

tenant. On other farms, the landlord's costs for conservation might be offset by additional expenditures by the tenant. However, some tenants may object to making these additional expenditures during the transition period unless they are assured they will remain on the farm long enough to recover the extra costs.

The preceding plan for financing conservation farming may be difficult to apply on crop-share farms where the landlord has no interest in the livestock. On these farms it may be easier for the landlord and tenant to agree on who will pay conservation costs if the landlord is given a share in the livestock enterprises. In this case the landlord would receive the same benefits as the tenant from such practices as improving the permanent pasture or raising more hay. Also, the tenant would not have to add as much to his customary expenses as he would if the landlord paid all of the conservation costs.

On some farms the tenant might find that he could afford to apply some of the conservation practices if he were assured that he could remain on the farm for several years. This situation might be met by giving the tenant a longer lease, or making some provisions to reimburse him if he leaves the farm before he has recovered his additional expenditures for conservation.

Inconveniences. A number of the farmers stressed the inconveniences caused by point and crooked rows when they attempted to apply contour farming to irregular slopes. Some farmers had difficulty in picking corn because the rows were so crooked the elevator often missed the wagon. These farmers also stated that point rows made the use of modern farm machinery difficult, and increased the time required for crop production. In most cases, these point rows were caused by irregular slopes, roads and farm boundaries.

A few of the farmers mentioned the difficulties they had with terraces built on irregular slopes. They said that the terraces were so crooked they

could not farm parallel with them; therefore, they farmed over them in many places. As a result, the terrace was destroyed the year the field was farmed in corn. Several farmers objected to terracing because of the difficulty of combining wheat. To eliminate some of the crooked rows, several farmers abandoned their terraces and adopted contour strip cropping.

Sod waterways were destroyed on a small number of farms when the farmer disked through them in preparing the ground for seeding wheat. These waterways had to be reshaped and seeded the following year. Some farmers mentioned the difficulty of maintaining sod waterways when they were located in fields pastured by hogs. To solve this problem it was necessary to fence the waterways, or pasture the hogs in another field.

Contour strip cropping created inconveniences in pasturing livestock on some farms in this study. As an example, temporary fences were required when the farmer wanted to pasture the meadow areas between corn strips after the hay was made. On some farms it was not practical to attempt to pasture these strips because no water was available for the livestock.

Farmers who are interested in raising the maximum amount of grain on sloping land will often need to adopt some erosion control practices. Before they apply these practices, they should understand how these measures will affect their future farm operations. It is necessary for a farmer to realize that he must maintain a terrace and its outlet, or the whole system will fail. He should recognize that he must farm parallel with the terraces to maintain the ridges and channels, or he will destroy them. If he thinks the terraces will be too crooked to follow, he should consider the use of contour strip cropping. However, if he adopts the latter practice, he may not be able to pasture some of the meadow strips.

If farmers are to maintain sod waterways on steep slopes, they will often have to disk around them, or set the disk for shallow cutting when they cross

them. By anticipating some of the problems involved in applying conservation measures, the farmer should be in a better position to successfully follow these practices after they are established. If farmers are to control erosion on sloping cropland, it will be necessary for many of them to accept some of the inconveniences in applying the needed mechanical practices. On these farms, the inconveniences from adopting erosion control practices may be less objectionable than soil losses by erosion, or a longer rotation with less grain.

Size of Farm. On a few small farms in this study, modern farm machinery complicated the problem of applying conservation rotations. On these the operator maintained that he could not afford to reduce the acreage of grain crops because of his investment in equipment. These farmers pointed out that they had enough machinery to raise twice the acreage of grain recommended for conservation purposes. They also insisted that all of this machinery was necessary because they could not afford to use horse-drawn equipment and custom work was unsatisfactory. When these farms were originally laid out, they were adequate in size for the equipment and methods used at that time. Observations indicated that depleting rotations were often followed until the operator could not make a satisfactory income. Then, the farm was either sold to a part-time operator or combined with more land to make a larger unit.

There are several ways for farmers to reduce the difficulties of applying conservation rotations on small farms. First, equipment costs may be kept to the minimum through custom use, exchange work and the purchase of second-hand machinery. Second, additional land may be rented or purchased in some cases. Third, the farmer might intensify his present type of farming by adding to the dairy or poultry enterprises.

Soil Depletion and Profits. High prices have encouraged some farmers to follow soil depleting rotations for short periods of time. Several farmers in

this study admitted they were raising too much grain for soil maintenance, but they wanted to take advantage of high corn and hog prices. They believed that prices of these farm products would decline in a few years, and at that time it would be more profitable for them to apply conservation rotations. This reasoning may be questioned because observations indicated that many farmers continue to follow soil depleting rotations as long as grain yields are high enough to return a profit. On some farms, grain yields were maintained at profitable levels by applying more lime and fertilizer instead of using better rotations. Some farmers contacted thought conservation farming applied only to the improvement of poor land, and did not realize that certain conservation measures are needed on good land to keep it in a high state of productivity.

The incentive to take advantage of high grain prices over a short period of time could be reduced in many cases if violent fluctuations in the general price level were eliminated. Since many benefits from conservation practices are not realized the same year they are applied, more emphasis should be given to the long-time benefits of conservation farming.

Inertia and Custom. Observations in this study indicate that some farmers delay the adoption of certain conservation practices because they have become accustomed to following accepted methods of farming in the community. These farmers hesitate to adopt recommended conservation practices until they have been accepted by most of their neighbors. In this way, they are reasonably sure the practices will be successful when applied to their farms. This procedure also eliminates the fear of neighbors' criticism for changing established methods of farming.

Several of the older farmers objected to applying conservation recommendations because they thought their present methods of farming would give satisfactory returns as long as they planned to farm. Some farmers hesitate to

work with the local soil conservation district because they do not want to admit they need help. This situation often delays the adoption of such practices as terracing and contour strip cropping because most farmers need some technical assistance in establishing these practices.

Some farmers delay the adoption of conservation practices because they tend to follow the line of least resistance. To these farmers, conservation farming can be delayed like many other jobs on the farm. They maintain there is still plenty of time for them to adopt the recommendations. Observations indicate that on many of these farms, the operator has also delayed adopting other recommendations for better farming.

Several methods might be used to assist farmers in applying more conservation practices. The method used should depend upon the present desire of the farmer to adopt needed conservation measures. First of all, some farmers are interested in applying a complete conservation program. Second, there is a large group of farmers who are interested in applying only a few of the recommended practices. Third, some farmers are not interested in applying any additional conservation measures at the present time. Farmers in the first group should profit by having complete conservation plans developed for their farms, and they should receive assistance in establishing and maintaining the needed practices. Farmers in the second group may need considerable assistance in establishing a few practices before they become interested in adopting a complete conservation program. Farmers in the third group will need an educational program to convince them that more conservation practices are needed on their farms. Conservation farming cannot be applied to many farms until the farmers recognize a need for the program, and are willing to apply the recommended practices.

Low Returns From Livestock. A few farmers objected to raising more hay and less grain for soil conservation purposes because they did not think they could maintain farm income. These farmers thought net income would decline if they plowed the additional hay under. They also insisted that it would not be profitable to sell or feed the additional hay. Observations indicated that returns from more livestock would be low if the present type of inefficient animals were increased on these farms. To overcome this obstacle, these farmers will need more efficient livestock if they are to utilize more hay and pasture efficiently. Some farmers will need assistance with their livestock program before they can take maximum advantage of the gains from conservation farming. On these farms, success of the recommended conservation program may be closely associated with the success of the livestock enterprise.

Several dairymen pointed out that they could not afford to raise more cows because the price of milk was too low to return a satisfactory profit even with high producing animals. In many areas, this obstacle may be more difficult to overcome than increasing the efficiency of the present type of livestock.

Compliance With Acreage Allotments. Several farmers objected to reducing the acreage of grain crops for soil conservation purposes because they wanted to maintain a high grain base if acreage allotments were adopted later. These farmers did not want to make two reductions in the acreage of grain on their farms--one to apply the recommended soil conservation rotation, and the other to comply with acreage allotments.

This problem could be reduced on most farms if acreage allotments were based more on soil conservation needs, and less on past cropping patterns.

Summary

This report discusses some of the obstacles that delay farmers in adopting recommended soil and water conservation practices in Ohio. Data for this study were obtained from personal interviews with more than 400 farmers in Coshocton, Morrow, Fayette and Champaign Counties. Approximately 350 of the farmers had conservation plans that had been developed in cooperation with the local soil conservation districts.

Some of the obstacles discussed in this report apply to the establishment of other new farm practices as well as conservation farming. Until these obstacles are overcome in the general field of agriculture, they will continue to hinder some farmers from adopting recommended conservation practices on their farms.

Some of the initial difficulties connected with conservation farming will disappear after the program has been adopted. These difficulties exist only during the transition period from the present to the proposed methods of farming. Some difficulties may continue after the conservation program is established because they are associated with the maintenance of the recommended practices.

Two types of obstacles that delayed the adoption of conservation practices were discussed in this report. One type included the obstacles connected with the direct application of conservation measures. The other type included the obstacles associated with the harvesting and utilization of more hay and pasture.

Some of the obstacles discussed are real while others may be imaginary. The former type may be largely overcome by research, the latter type by education.